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Soil Conservation

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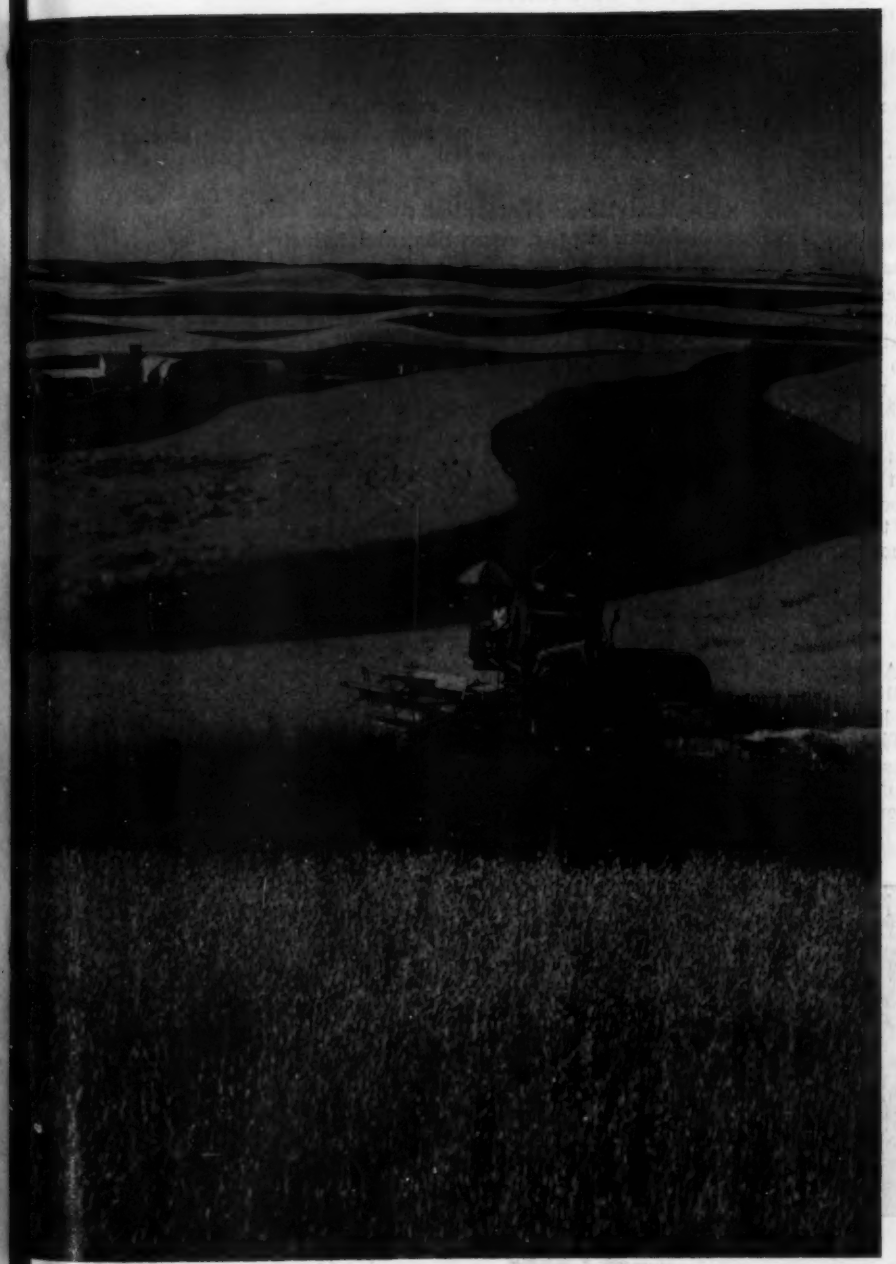

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SOIL CONSERVATION SERVICE

U. S. DEPARTMENT OF AGRICULTURE

AUG 3 0 '65

AUGUST 1964 VOL. XXX, NO. 1

Soil Conservation

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Our New Look . . .

The changed appearance of *Soil Conservation* Magazine with this issue will, we hope, reflect the spirit of change now active in the conservation field.

Administrator Don Williams in the July issue commented that 1964 problems must be met with 1964 methods.

That issue and this tell of new advances in conservation technology and new areas of conservation activity.

For 29 years, *Soil Conservation* has recorded the progress of the soil conservation movement with emphasis on the experiences of farmers and soil conservation districts. We need now to expand our horizons to include nonagricultural landowners, urban and suburban communities, and problems and experiences of the technical people who assist them.

We hope the more modern typography adopted with the first issue of volume 30 will make the magazine more effective in communicating these new developments in conservation.

Cover picture—August is harvest time in the rolling Palouse country, as in much of the northern wheat area. Then the conservation farmer reaps the reward of his husbandry—Photo by R. L. Kent, from "America the Beautiful" series.

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TS
TECHNOLOGY & SCIENCE

Algerian workers forming terraces and waterway near Dupere, Algeria.

SCS Goes Abroad

New type of contract with AID sends technicians to foreign lands under SCS supervision

By Edward H. Graham
Assistant to Administrator

FOR the first time, the Soil Conservation Service is now operating in foreign lands. In North Africa teams of SCS technicians are assisting the governments of Tunisia and Algeria to plan and apply soil and water conservation programs.

In each country SCS is undertaking the operations under a Participating Agency Service Agreement (PASA) with the Agency for International Development (AID), Department of State, which administers and coordinates assistance programs in less developed countries.

Dr. Graham is responsible for international programs of the Soil Conservation Service. He spent 4 weeks in March and April reviewing SCS field operations abroad.

Under the general guidance of AID, SCS assumes operating responsibility for the technical phases of the program.

Soil Conservation Service personnel remain on SCS rolls, report to SCS personnel, and receive their administrative supervision and technical back-stopping from SCS. In short, they function essentially as if they were working for SCS in the United States, with employment rights and opportunities preserved. Overseas they share the challenge and rewards of helping others apply American experience to the solution of new problems in unfamiliar conditions.

In years past a great many SCS people have worked abroad and have contributed to soil and water conservation in countries throughout the world. They usually transferred to another agency or organization, such as a foundation, FAO, or AID, although they retained reemployment rights in SCS. Under the PASA arrangement AID funds are made available to SCS, which assumes responsibility for performing a specific job abroad within the framework of AID policies and objectives.

Watershed Project in Tunisia

In Tunisia the SCS has been engaged in developing a plan for a watershed above the town of Kairouan, some 100 miles south of Tunis, the capital, a modern city near the site of ancient Carthage.

The Oued Marguellil watershed comprises some 375,000 acres and stretches 60 miles from crest to outlet. Although it is semiarid land with a rainfall of only 8 to

E. H. Graham, John H. Johnson, Leslie R. Albee, and Charles M. Hood in the Oued M'Silah subwatershed, Tunisia.

10 inches, there is a heavy human population, about one person for every 2.5 acres.

Centuries of agriculture and grazing have resulted in severe erosion throughout most of the watershed, with floods causing heavy debris damage to the broad plain of the river above Kairouan, and occasionally to the town itself. There are large acreages in wheat and barley, and many orchards, mostly olives and almonds. Much of the area is heavily grazed by tended herds of livestock, especially sheep and camels.

Within the large watershed area, the Oued M'Silah subwatershed of some 4,300 acres has been mapped and planned in detail. Now that the general planning is completed, the Tunisian government is ready to employ, as relief labor, a force of men to develop rotation pasture plots in the north-central section of the watershed, and to follow with the establishment of other conservation practices.

Nearly 40 proposed floodwater-retarding and water-management structure sites have been designated in the Oued Marguellil watershed area. The installation of land treatment measures will dominate the program in the watershed, however, until sufficient basic hydrologic and geologic data are available to determine the precise location of the structures and the Tunisian government feels it can justify the expenditure involved in building them.

To work with SCS technicians in the watershed, the Tunisian government has assigned two of its own men, college-trained in the United States. The onsite training of these Tunisians, working with experienced American technicians, may be one of the solid contributions of the undertaking, for SCS personnel will phase out of the program within a few years.

Crew of Specialists

More than 2 years ago John H. "Blackjack" Johnson, from the Ft. Worth Engineering and Watershed Planning Unit, went to Tunisia under SCS/AID contract, and the planning of the Oued Marguellil watershed area has been completed under his general direction. During this period, and even before, technicians had been made available for short periods through AID to assist with special aspects of the planning work.

Among the specialists who have worked on the watershed project are L. E. Derr, soil scientist from Oklahoma; John P. Alden from the Training Center at San Luis Obispo, Calif.; Louis Gottschalk and Roy G. Andrews, hydrologists from the Washington Office; Elco Greenshields, ERS economist; Louis M. Glymph, Jr., ARS watershed engineering research specialist; Clarence Haverland, geologist from New Mexico; M. P. Frank, E&WP Unit, Fort Worth, Tex.; Thomas Cowan, engineer from Texas; and Robert Dean, engineer from Montana.

With the return of Mr. Johnson to the United States in the spring of 1964, Leslie R. Albee, range conservationist from South Dakota, has taken over the leadership of SCS work in the country. He will be assisted by James Bower, soil scientist from Texas; Ralph White, engineer from Texas; and Louis Parton, soil conservationist from Oregon.

Conservation in Algeria

The job SCS is doing in Algeria is different from that in Tunisia. Here, instead of planning a watershed, the effort is directed toward the application of simple conservation practices. These will not only serve as a demonstration of adapted U. S. techniques, but will

also provide employment for a large number of Algerian citizens.

The work is directed from Tizi-Ouzou, Orleansville, Tlemcen, and a fourth location still to be determined. A central headquarters has been established at the capital, Algiers, a metropolis of almost a million people on the Mediterranean shore.

Elvin Wickline from West Virginia is the project conservationist in charge at Tizi-Ouzou, Tom Dicken from Kansas is at Orleansville, and Frank Carr from Virginia is at Tlemcen, near the Moroccan border. Charles M. Hood from Missouri is program conservationist in charge of all SCS activity and is stationed in Algiers.

To assist the project conservationist in the field, four SCS specialists have been assigned to Algeria. They are Jesse McWilliams, plant materials technician from Wyoming; engineers Henry Gembala and Charles Walter from Nebraska and Montana; and soil scientist Sanford Anderson from the State of Washington.

The contract with AID was undertaken by SCS after John T. Phelan and Cal L. Roark of the SCS Washington Office had reviewed the situation in the spring of 1963. The first SCS personnel arrived in Algeria last summer.

Work in Foothills

The work projects in Algeria are largely in the northern part of the country between the Atlas Mountains and the Mediterranean Sea, in a strip varying in width from 50 to 100 miles and rising to elevations of 6,000 feet. South of the mountains stretches the Sahara desert. Most of the work is in the foothills, but there is also some work in the better land of the valleys and uplands near the coast where grain, grapes, and citrus, and vegetables are grown intensively on land improved by the French. There is also some work in the higher mountains where remnants of oak, pine, and cedar forests still persist.

All of the better land of the Mediterranean region was farmed by the Romans, and the ruins of their works and cities are still conspicuous features of the landscape throughout North Africa. Erosion is widespread and severe in the hills. The rainfall is higher than in the Tunsian watershed area —up to 30 inches or more in some sections along the coast — almost all of it falling during the winter months in typically Mediterranean fashion. The summers are dry and warm.

Soil conservation in Algeria under SCS technical supervision is accomplished through a public works program. The work is done by Algerians using handtools, each man receiving a daily wage consisting of cash, about 75 cents, plus a ration of American wheat and edible oil made available through Public Law 480 funds.

When I visited the projects in March of this year, about 1,000 men had just begun to work, although it is expected that tens of thousands will be employed before the summer is over.

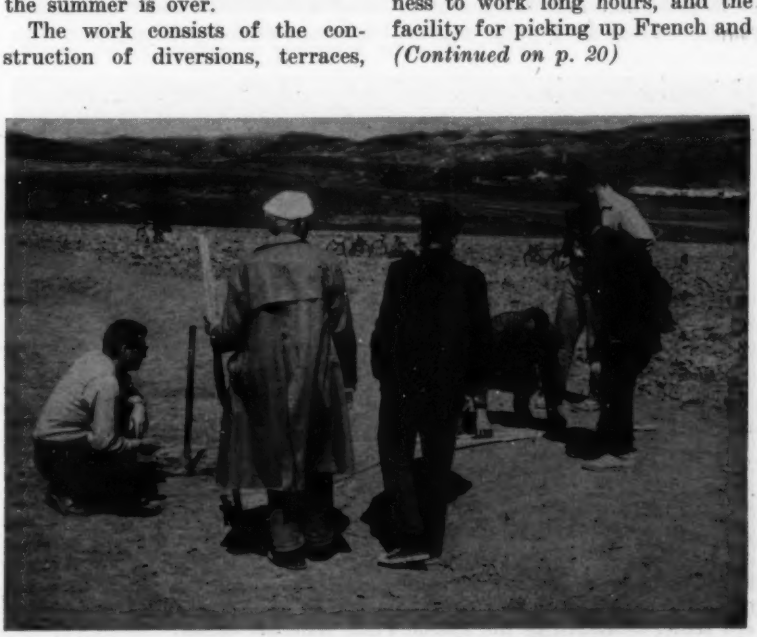
The work consists of the construction of diversions, terraces, outlets, irrigation canals, gully control structures, small dams, rock and brush removal from arable land, and tree planting. In addition, three nurseries for producing trees and other plant materials, once operated by the French, have been rehabilitated and several village water supply systems have been improved.

Young Volunteers Help

A distinctive feature of the work in Algeria is the assistance provided SCS personnel by young men of the International Voluntary Services (IVS), an indendent organization which has a contract with AID.

IVS, now in its 11th year, has some 200 college-trained men working overseas. At each of the Algerian project headquarters four IVS men aid the SCS project conservationist in planning and applying soil and water conservation practices. Trained in various fields —engineering, horticulture, biology, economics, forestry, etc. — these young men share a desire to live and labor abroad, a willingness to work long hours, and the facility for picking up French and

(Continued on p. 20)



Elvin Wickline and Henry Gembala providing onsite instruction near Algeria.

New Conservation Plants in the West

Superior varieties and new methods increase farm and ranch income

By A. L. Hafenrichter
Plant Materials Technician, SCS, Portland, Oreg.

NEW plant materials are making millions of dollars for farmers and ranchers in soil conservation districts in the West. Thirty new plants are now in use that were unknown 25 years ago. Half of them are pedigreed and registered.

These new income-producing plants are the product of the Soil Conservation Service Plant Materials Centers. Each plant is tailored to do a specific conservation job. Their correct use depends on knowledge of conservation needs, proper land use, soils, and climate.

Just as engineers test new designs for automobiles, each new grass or legume runs the gamut of precise testing in a plant materials center before it is put into general use. The testing program is especially designed to develop a good plant with dispatch but at high professional standards.

Lehmann Lovegrass

Lehmann lovegrass is the best range grass yet discovered to seed semidesert grassland in poor condition. At least 1½ million acres in Arizona and adjacent States is range of this kind needing establishment of plant cover, according to the recently completed Conservation Needs Inventory.

Good stands of Lehmann lovegrass will produce 20 pounds of beef an acre. In contrast, similar land not seeded produces less than 10 pounds an acre. This difference applied to the 1½ million acres needing to be seeded would increase gross income by $3 million annually.

Lehmann lovegrass is easy to establish with a minimum of seedbed preparation. Even if a sparse stand is obtained in a low rainfall year, the grass reseeds itself and comes to a good stand later. The grass was brought from South Africa and put into use by the Tucson, Ariz., Plant Materials Center.

Lehmann lovegrass is seeded into low-producing rangeland with a pitting disk and seeder developed by the Tucson Plant Materials Center.

On Saline Soils

New plants combined with a simple means of correcting soil salinity pointed the way to increasing net income by $75 million annually on 500,000 acres in California. Landowners are now producing 8,000 pounds of milk an acre annually where they claimed "It takes 40 acres to feed a cow" when soil conservation district directors requested assistance from the SCS.

The Pleasanton, Calif., Plant Materials Center worked out the method for correcting the saline-alkali conditions and used the new Goars tall fescue and Los Banos trefoil to produce consistently good pastures. The technicians recommended flushing off the salts because drainage was not feasible, then applying 3 tons of gypsum an acre. The fescue and trefoil were planted on good seedbeds in the fall, came up with fall and winter rains, and were fertilized

and irrigated the next season. Many plants were tried, but only Goars fescue and Los Banos trefoil gave consistently good yields.

Success at Twin Falls

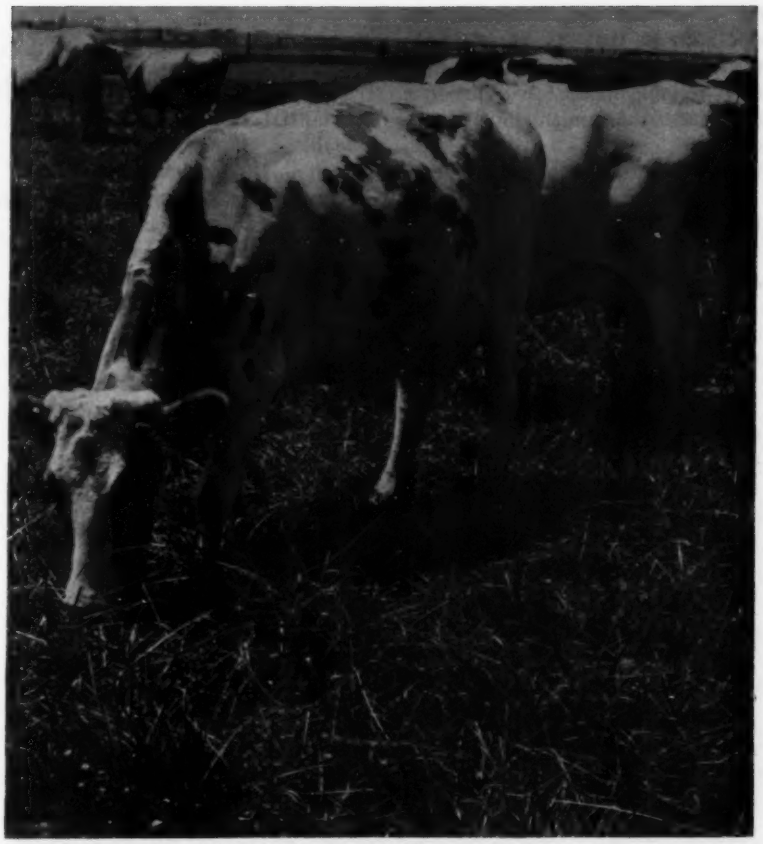
Necessity is often the mother of invention. This was the case in the Twin Falls Soil Conservation District in southern Idaho where a need for water conservation brought about a seed-production industry grossing $125,000 annually. At the same time rangeland was being seeded as rapidly as ranches could be planned and sites selected. Good grass has increased land values from $4 to $20 an acre.

Water conservation was the first objective of the Twin Falls district. Irrigation water was plentiful in the spring but often short by midsummer. The Aberdeen, Idaho, Plant Materials Center had produced a superior new grass for range seedings, Siberian wheatgrass, but the seed supply was short. SCS technicians knew that good seed crops of the new grass could be produced with much less irrigation than alfalfa hay, potatoes, or beans. The district began growing seed, and success was immediate. The number of growers increased rapidly.

In the meantime, sagebrush was cleared on adjacent rangeland and Siberian wheatgrass was seeded there. It was well adapted to the Sierozem soils, produced 30 to 50 pounds of beef an acre, had a longer green-feed period, and was more digestible than other grasses commonly used. The use of Siberian wheatgrass is spreading to adjacent States.

Alternate-row Seedings

New and otherwise good plants often require new methods to get good ground cover and good production. Cascade birdsfoot trefoil planted with new varieties of orchardgrass makes a superior soil-improving crop and produces good hay, silage, and pasture. But the seedlings can be crowded out by an aggressive grass before they are established. The same result is often obtained with Ladino clover. The Corvallis, Oreg., Plant Materials Center worked out a way to overcome this difficulty. It simplified the alternate-row seeding method, which can also be used for seeding alfalfa-grass and Ladino clover-grass mixtures.



Dairy cows produced 8,000 pounds of milk an acre on this Goars fescue-Los Banos trefoil pasture on reclaimed saline-alkali land.

A grass and a legume can be seeded in alternate rows with any farm drill in good repair. Cardboard partitions are installed in the grain box, and the two kinds of seed are put into alternate compartments. The grass seed and the legume seed are mixed separately with rice hulls in correct proportions to plant the right amount of each with one setting of the drill.

Hundreds of acres are planted by the alternate-row method each year. The value of being able to get consistently good stands is hard to estimate. The saving in seed alone is a substantial figure because the alternate-row method requires at least one-third less seed an acre.

A Vetch for Range

Miracle once-in-a-lifetime plants do occur. Such plants are often overlooked, but trained plant materials technicans who are aware of a major need for land treatment quickly "spot" them. Lana woollypod vetch was discovered in this way by the Pleasanton Plant Materials Center.

Lana vetch is the first really successful legume ever developed for use on western rangeland. Ev-

ery grassman and livestock producer knows that an acre of range feed containing at least 30 percent of a reliable legume will produce more meat than grass alone. Range conservationists have been searching for such a legume for years.

Lana vetch consistently doubles the forage production when seeded on annual grass range in California. When rainfall is less than 16 inches, average production with Lana vetch is 1,600 pounds of air-dry forage an acre; without vetch, 800 pounds an acre. When rainfall is more than 16 inches, the corresponding figures are 2,000 and 1,000 pounds. These figures represent an increase of about 35 to 40 animal-unit-days of feed attributable to the use of vetch.

The Conservation Needs Inventory indicated that there are 5 million acres of foothill grazing land where Lana vetch can be used. If only half of it were seeded, and beef cattle on it gained 1 pound a day, the additional annual income attributable to the vetch would be between $17½ and $20 million. Allowing for the cost of fertilizer needed to maintain the vetch in vigorous condition so it will reseed—9 pounds of phosphorous (40 pounds of P_2O_5) an acre annually—the increased net income from Lana vetch would be at least $10 million.

Lana vetch has other uses. Increased income from these uses is substantial but has not yet been calculated. For example, a combination of Lana vetch and a grass—Blando brome—makes an excellent self-seeding cover crop for orchards and a successful bank stabilizer in small watershed projects. Both mourning doves and quail relish Lana vetch seed and gather in large numbers where the legume is grown. Sportsmen prefer those fields for hunting.

Quality Forage

Latar orchardgrass, a new variety "spotted" by the Pullman, Wash., Plant Materials Center, yields as much forage an acre as any other orchardgrass variety, and pound for pound contains 10 percent more digestible nutrients. This was determined in feeding trials by scientists of the cooperating Washington Agricultural Experiment Station.

Orchardgrass is widely adapted to farmland in cool, temperate climates. It has many uses in conservation work, being used to stabilize soil to improve soil tilth, and to produce hay, pasture, and silage. It is usually planted with a legume and is especially desirable for use with alfalfa for hay and silage and with trefoil or Ladino clover for pasture.

Simple dividers of heavy cardboard or plywood are held in place in the grain box of a drill to make alternate-row seedings of grass-legume mixtures.

Latar orchardgrass was released for use in 1957, and 6 years later more than 100,000 acres were reported from farms and ranches in the West. Its potential monetary value, if used on only half the land to which it is adapted, has been estimated at $21 million a year.

Irrigated pasture containing Latar orchardgrass and Vernal alfalfa produced 1,000 pounds of beef an acre.

Mud River Watershed

Award-winning project gives Kentucky towns water supply, recreation, industry

ON JUNE 2 of this year, Jewell Graham of Lewisburg, Ky., opened the valve of a new fire hydrant and released the first bursting spray of water into a city street. The ceremony ended dependence on unreliable "salt and soda water" private wells for 192 eager Lewisburg customers. It also chalked up another victory for an expanding community effort known as the Mud River Watershed project.

A month earlier the four-county Mud River watershed was proclaimed winner of the National Watershed of the Year Award at the 11th National Watershed Congress held in Little Rock, Ark. Jewell Graham, who is chairman of the Mud River Watershed Conservancy District and also president of the Kentucky Association of Soil Conservation Districts, accepted the award "in the name of the 1,600 farmers of Logan, Muhlenberg, Todd, and Butler counties who made the program possible by cooperating in its land and water conservation practices."

The citation for the award tells the story:

"In a prize essay in 1955 a Kentucky schoolgirl by the name of Ernestine Williams described the plight of the flood-plagued watershed on which her father's farm is located and proposed a cure. She wrote 'In soil conservation practices man and Nature join hands as friends and work together to rebuild God's earth as He intended it to be.'

"As it turned out, this was precisely what happened on this 240,000-acre watershed. Sixteen hundred farmers . . . joined hands to tame the unruly Mud River and applied for assistance under Public Law 566.

"The Mud River Watershed Association was formed at the same time. Armed with enabling legislation, farmers were joined by citizens in towns and cities to form a Mud River Watershed Conservancy District.

"Under Jewell Graham, the conservancy district obtained 160 easements from farmers and corralled support from bankers, editors, business and professional men, and county and State officials.

"The watershed work plan that was approved for Mud River called for 24 floodwater-retarding structures (all but 8 now completed), 2 multipurpose structures, and 17 miles of channel improvements as well as accelerated land treatment.

"A dam for what has proved to be a jewel of a lake in a green Kentucky setting, Lake Malone, was completed in 1961 and offers 900 acres of water for recreation in addition to flood protection.

"The State and the Soil Conservation Service split the construction cost of the lake. Lake Malone is already providing 15,000 man-hours of fishing annually, which attests to the acumen of local sportsmen who purchased the land for impoundment and deeded it to Kentucky. A $45,000 sportsmen's lodge has been built on the lake. A new State park will entertain upwards of 1 million visitors a year.

"Sites for more than 250 summer homes have been sold, of which

Jewell Graham, chairman of the Mud River Watershed Conservancy District, opens a Lewisburg, Ky., fire hydrant to release water from a floodwater-detention structure. City officials watch the ceremony heralding arrival of city water to replace individual wells.

Nolen J. Fuqua (l.), Watershed Man of the Year, watches as Jewell Graham (r.) accepts the Watershed of the Year award for Mud River watershed sponsors from James B. Craig, master of ceremonies at the 11th National Watershed Congress. (*Arkansas Gazette* photo.)

100 have been constructed. Three boat docks have been built, 40 miles of roads and a new $154,000 bridge provided by the State. Interest in a second multipurpose dam and reservoir for Lewisburg's water supply was sparked by that city's Lions Club.

"The city bought land for impoundment and a grant and loan from the Area Redevelopment Administration was secured for installation of the water supply system. The dam was completed in 1963, and the water system will be in operation by early summer.

"A new factory employing 75 persons is one direct result of this new water system, and Mayor Marion Price Pitt estimates a total of 170 new jobs are being brought to the community.

"On the land itself, 87 percent of the planned conservation practices have been carried out. Nine hundred acres of stripcropping have been installed and more than 500 acres of grass waterways established. The Forest Service has assisted with the planting of more than 750 acres of trees. Pasture planting and cover crops may be seen everywhere."

This is not all of the citation. Lengthy as it was, it could not hope to describe the local volunteer effort that went into the Mud River project nor the effect on the local economy.

The Mud River watershed is mainly agricultural, but includes several small towns, the largest of which is Russellville with a population of 8,500. The area has a long history of water problems—too much or too little. Crops worth millions of dollars have been buried or strangled in swirling waters of recurring bottom-land floods. Road and bridge damages added to the costs. And while bottomland farmers struggled with high water problems, families in the uplands worried about water shortages. Even moderate droughts brought dry wells. With no body of water of any size within a hundred miles, water-based recreation was practically nonexistent.

This has also been an area of job scarcity. Nothing attracted industries but the availability of labor, and other handicaps outweighed this advantage. Young people, on and off the farms, have had to find jobs in distant cities.

Bringing a watershed project into the community was like breaking a log jam. Local residents began to feel a new freedom and spirit of adventure. They decided this was something good and they wanted to make the most of it.

Here are some examples:

When Bob Guion, manufacturer of laying crates and prefabricated "hog parlors" at Russellville learned that Lewisburg was impounding water for its use, he decided to set up a branch plant there. His new business is now hiring 75 persons.

When Clyde Baugh, another young Russellville businessman, saw that the 900-acre "dream lake" of local sportsmen was to become a reality, he started a boat shop. His powerboats are now skimming the waves on this popular recreational lake.

The Emerson Electric Company constructed a $4 million plant at Russellville to make fractional motors. It hires in the neighborhood of 500 persons. The watershed project was one of the important considerations in its location.

The Rockwell Manufacturing Company of Russellville plans to greatly expand in the next few years and already employs more than 300 persons. The Mud River project will reduce silting in the city's reservoir and will provide an auxiliary source of water for

the industry if it is ever needed.

B. M. Stuart, chairman of the Russellville-Logan Chamber of Commerce Industrial Committee, said recently that local plants with the largest payrolls are the ones that feel the effects of the watershed program most. He estimated the combined payroll of the five largest at $3 million a year.

Besides protection to crops, area farmers are gaining efficiency in use of their land, says L. J. Northern, local conservationist with the Soil Conservation Service. And Logan County Agent Aubrey Warren asserts he now finds it easier to gain acceptance of an intensified livestock feed production program which he hopes will raise Logan County's income by $4 million a year.

Macon Brown, vice chairman of the Southern Deposit Bank, reports that loans and deposits have increased 25 percent in the past 5 years with a high proportion tied to land improvement in the watershed—loans to buy seed, reclaim land, get bulldozer work done.

One of the biggest boosters of all has been Al Smith, editor of the *News-Democrat* at Russellville. He claims the educational aspects of the watershed project have been of tremendous value.

Mud River thus takes its place with other multiple-purpose watershed projects where local people through initiative and imagination are breaking the log jams of undeveloped soil and water resources. Those who have shared in this and other similar ventures will agree they provide a "new frontier" of opportunity.

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More than tripling in number since 1957, cooperative soil survey reports published by the Soil Conservation Service are used by farmers, builders, land appraisers, planning agencies, and highway engineers.

Bicolor Guards Rights-of-way

TALL pines and powerlines are not compatible. But quail and bicolor and utility rights-of-way make a happy combination.

That was why the Blue Ridge Electric Cooperative, Inc., of Pickens, S. C., has been an active participant in the Twelve Mile Creek Pilot Watershed project for several years.

As part of the watershed program, farmers were planting eroded fields and idle land to pine trees but had to skip the long strips of utility rights-of-way across their farms. Each strip was becoming a new critical area, a source of fast rainfall runoff, and each contributed sediment to the stream channels and reservoirs. Because the farmers were working desperately to stop the many critical areas they already had, they didn't want any more.

To solve the problem, Work Unit Conservationist F. G. Lindsey of the Soil Conservation Service took a tentative solution to Cooperative Manager A. J. Hurt. Heretofore, farmers had liked shrub lespedezas, japonica, and bicolor and had planted small plots on several farms. With a little encouragement, he said, they might agree to protect the rights-of-way with these plants.

The cooperative agreed to furnish fertilizer for the plantings, the South Carolina Wildlife Resources Department agreed to supply as many plants as they could, and the Pickens Soil Conservation District agreed to handle both materials.

The project got underway in 1953 and by 1957, 101 acres had been planted to this favorite quail food. Most of the rights-of-way are now protected but the program continues, Lindsey reports.

Each year the district distributed 50,000 to 75,000 plants—as many as were available from the wildlife department. Most of them went on the potential trouble spots on utility rights-of-way.

Bicolor seed shatter throughout the winter, providing feed for quail. Soil Conservationist Paul Hollis inspects crop in Twelve-Mile Creek watershed.

Clyde Chapman, who planted 1,000 feet of right-of-way in 1957 at the rate of 8,000 plants to the acre, reports a great increase in the native quail population. A pair of Japanese quail that he released several years ago has now multiplied into many coveys.

Windbreaks and Wildlife

Harold Gallaher, Extension forester at Kansas State University, reports that windbreaks do more than break the wind. Trees used in windbreaks produce seed, berries, and fruit for wildlife during cold weather, serve as nesting places for some birds, and provide cover and protection from predators and severe winter weather. A combination of a row or more of red cedar and a row of Austrian or ponderosa pine is the "backbone" of a winter windbreak in this area.

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• **Ownership of Rural Land in the Southeast,** by Roger W. Strohbehn, 1964. Agr. Econ. Rept. 46. 43 pp., illus. The pattern of rural ownership is revealed by interviews of 2,643 landowners.

New Hope for Sunset Community

Rural people, agencies work together to develop resources

THE Sunset Commmunity, about a half mile outside the city limits of Marion, Ark., is a good example of how the Soil Conservation Service and other agencies are cooperating in eastern Arkansas to advance Rural Areas Development and give assistance to underprivileged rural families.

Soil Conservationist Chester Durley has helped the local people make plans, and SCS technicians have completed surveys in the Sunset area. Work will be underway soon to solve water problems.

The area is within the Crittenden County Soil and Water Conservation District and is typical of several similar communities in the district. Sunset has a population of 103 families, all of whom work on farms as day laborers or croppers. In the area where they live there is a continuous problem with water. As one resident put it, "We have a problem when there's lots of rain and a problem when there isn't any."

Chester Durley.

"During recent months," says Chester Durley, "I have made a special effort to work with land owners and operators to preserve the family pattern in agriculture. I have tried to coordinate my efforts with those of the Farmers Home Administration representatives, Extension personnel, county health workers. and vocational agriculture teachers to help disadvantaged, low-income farm families. I am receiving tremendous personal satisfaction and believe this special effort and assistance on the farms and with these farm families is very beneficial."

Poor Drainage

Standing water for weeks after a moderate rain was a common occurrence, as in the above picture where T. C. Green (r.) president of the Sunset Citizens League, discusses the situation with W. C. Potts, secretary. Representatives of the community approached SCS technicians and after explaining their plight requested a preliminary drainage survey. The survey revealed that culverts leading under a nearby highway are too high, thereby blocking the outlets. The water backs up shoe-top deep in most yards after 3 or 4 inches of rain and remains until it is absorbed or evaporated.

Chester Durley, soil conservationist, has been with the Soil Conservation Service since December 1951. He also worked with SCS on a land utilization project in 1941 at Tuskegee, Ala., as an agricultural aid. Between 1950 and 1951 he was assistant county agent, Agricultural Extension Service, Claredon, Ark. He received his B.S. degree in agriculture from Arkansas A.M.&N. College and an M.S. in agronomy from Michigan State University.

Water Shortage

Periods of water shortage present other problems. There is no water with which to combat fire, and the Marion City fire trucks often are too late to be effective. Good health is endangered because many residents get their water from shallow wells which yield unsanitary, brownish water. Others haul water by can or barrel from some distant source for drinking and bathing. Mrs. Teresea Person, above, pumps water from a shallow well to be used after being treated with lime.

With SCS encouragement residents of the community organized the Sunset Citizens League. The county had already been declared eligible for Area Redevelopment assistance. The Citizens League received an FHA loan of $35,000 to install a water system. When this job is completed a drainage and sewer system will be developed to relieve the community of flooding and pollution.

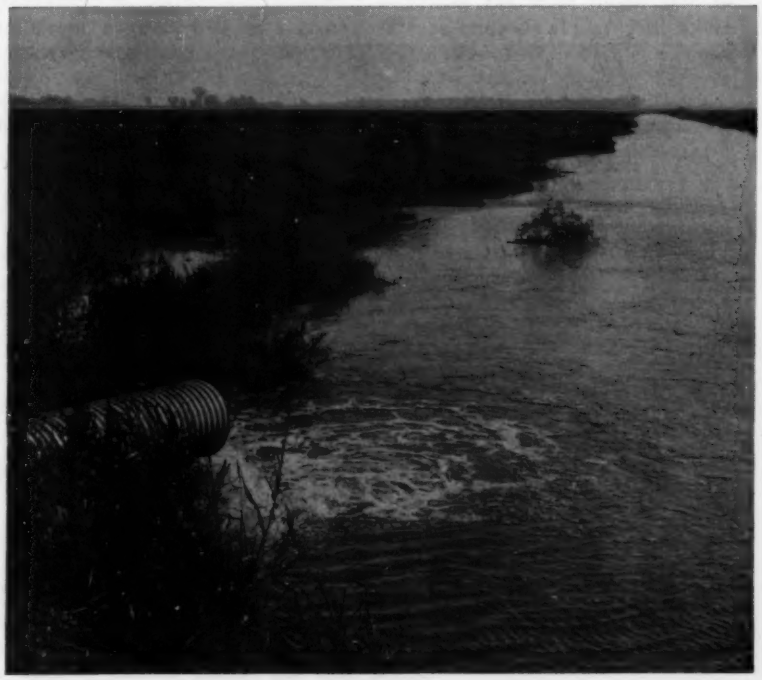
A Recreation Lake

Northwest of the Sunset Community, near Crawfordsville, the SCS and Agricultural Stabilization and Conservation Service are assisting in a Rural Areas Development program calling for conversion of 350 acres of cropland to a lake and recreation area. The project is being developed by the Alpe brothers and is the largest of 10 such projects in the State. Ultimate objective is to have this unit furnish the urban and rural population of the surrounding area one of the top recreational facilities in eastern Arkansas and western Tennessee. It is a 5-foot deep lake suitable for just about any type of water sport. Water to fill the lake is pumped from a deep well (below).

Present plans call for the grand opening July 4, 1965. The lake will have almost a mile of sand beach fronting. It has already been stocked with fish, and about 10 acres of surrounding property will be in picnic and parking areas. The Alpe brothers received an adjustment payment of $10,000 from the Government to help maintain their income while converting the 350-acre tract from crop production to a recreation area under the provisions of the cropland conversion program.

ASCS participated in the cost-sharing program on all earthwork. SCS furnished all technical assistance, such as soil interpretations, engineering surveys and designs, agronomy and biology information. About 18 acres of bermudagrass has been seeded to protect the levees and improve the picnic area.

SCS technicians report much enthusiasm among Sunset residents as they anticipate ultimate benefits from the onsite assistance of USDA agencies. The working agreements developed locally enable each agency to make its maximum contribution to the common goal. — OTIS THOMPSON, *information specialist, SCS, Washington, D.C.*



Agencies, Landowners Join Efforts to Improve Ditch

By Richard W. Rush and William F. Brown
Work Unit Conservationist and Conservation Technician, SCS Chillicothe, Ohio

THE Soil Conservation Service cooperated with other agencies of the U. S. Department of Agriculture to help a group of Ross County, Ohio, farmers solve a costly drainage problem. Source of the problem was a plugged outlet ditch that caused concern for landowners in Ross and Pickaway counties.

Farmers and representatives of public organizations from both counties held a meeting in February 1963 to discuss what could be done about the problem. Public officials urged that any action be a cooperative effort of neighboring farms rather than that of a legal drainage district organization. The cooperative method would save time and allow the group to take advantage of the Agricultural Conservation Program cost-sharing.

The farmers organized the Holderman Ditch Improvement Association. They requested ACP cost-sharing from the Ross ASC Committee and SCS engineering assistance from the Ross Soil and Water Conservation District. Both requests were approved. The county commissioners and county engineer also cooperated.

SCS made a survey of the ditch and recommended that five laterals draining into the Holderman Ditch be deepened. As much as 3½ feet of earth needed to be taken out of the ditch. A total of 5.6 miles of ditch needed to be deepened and widened requiring 22,200 cubic yards of earthmoving.

The ditch deepening project is viewed by a group of farmers who have similar problems in their own community.

The farmers questioned whether the outlet ditch would become silt-filled again once it was cleaned. They were told that most of the upland landowners were cooperators of the Ross and Pickaway soil and water conservation districts in the 11,736-acre watershed with basic soil conservation farm plans developed and applied. This would reduce silt movement from the watershed to the ditch, and they could realize full benefit of their investment as well as lower maintenance costs.

Because examination of a soil survey map showed 11 farmers and 1,050 acres would benefit most from the drainage, cost of the improvement was divided among them. All agreed this was fair and accurate.

On September 16 the bids were opened and the contract awarded. Construction was started October 1, and the contractor was able to complete the job by December 1. A dragline with ¾-yard bucket was used. Fifty percent of the spoil was spread in the fall and remainder was completed in the spring.

Wayne Cryder, manager of the association, said the cooperation shown in the Holderman project is essential in solving soil water conservation problems either with groups or individual landowners.

•

USDA-California Experiment Station studies showed that annual range plants treated with moderately high applications of nitrogen and phosporus produced a more extensive root system and used moisture four times more efficiently than did untreated plants.

•

Grazing of livestock in shelterbelts can spell destruction for the trees, and the feed the animals get usually is of poor quality.

Spoil bank on right side of Chippewa River as it passes Benson, Minn., illustrates the shape and position used in large floodways of this project.

Large Floodways Present Problems in Construction

By James R. Fisher
Project Engineer, SCS, Montevideo, Minn.

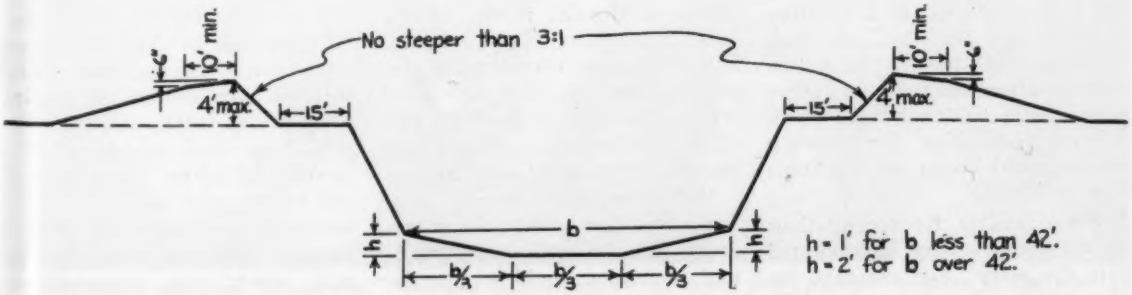
MOVING unusually large quantities of earth presented unique problems in both design and construction of the several large floodway channel improvement jobs in the pilot watershed project in western Minnesota.

The three subwatersheds of the Chippewa River Tributaries and Hawk Creek Watershed Protection project have floodways totaling 139.5 miles in length and requiring nearly 10 million cubic yards of excavation. Channel depths average from 6 to 9 feet and some reach 25 feet. Channel bottom widths range up to 70 feet on the Shakopee and Hawk Creek floodways and up to 140 feet on the Chippewa River improvement.

The large channels were needed to contain expected storm flows within the banks. The necessary width, however, created a problem in handling the smaller normal flows. The latter could be expected to meander across the wide channel bottoms and cut secondary channels in them. It was decided, therefore, to use a parabolic (or saucer-shaped) channel section with a tapered shelf on either side. Lower flows would then be contained in the center of the floodway and the shelf along the toe of each bank would prevent scour. The shelf would also permit better growth of vegetation between floods.

Contractors had no difficulty in digging channels of this shape. Later checks show that they are keeping their designed shapes.

Another feature of these large channels was a 15-foot-wide berm of undisturbed earth along each side. Excavated material was re-



Typical cross section of floodway showing shape of channel bottom and spoil banks.

quired to be placed outside the berms, thus preventing any of it from being washed back into the channels. This also places the spoil piles far enough away from the newly cut banks to avoid sloughing, as commonly happens when the quantity of excavated material is large as it was on these jobs. The berm serves as an access route for regular maintenance inspections and provides room for machinery to perform any necessary maintenance work.

In Minnesota, spoil piles usually are not leveled until the season after excavation. Most excavated material is saturated and needs considerable time to dry. Good drying weather occurs mainly from May to October.

A slope no steeper than 3 to 1 was specified for the channel side of the spoil to allow for satisfactory seeding and mowing of the banks. A 4-to-1 slope was required on the landward side. Also, the top of the inner slope was made the high point of the spoil. A 10-foot top width with a 6-inch slope away from the channel was required to avoid a "peaked" spoilbank that would be difficult to maintain. Any water falling outside the crest would flow away from the ditch and enter the floodway at intervals through pipe inlets or sod chutes.

Many special problems arise when very large floodway channels are routed through urban areas. The Chippewa River improvement passed through Benson, Minn., near the sewage treatment plant. The channel in this area had a top width of 165 feet. During the planning stage, meetings were held with the city council so that the alinement route and other work would be familiar to them. Planned protection for existing sanitary and storm sewer outlets was explained.

When feasible, recommendations of the council were incorporated into the plans. For example, the city had hired a consulting engineer to make recommendations for enlarging the sewage treatment plant. The consultant, through the council suggested that about 7,000 cubic yards of excavated material be stockpiled in a designated area for use during the remodeling of the plant. It was possible to incorporate the proposal into the plans, and a special note was placed on the plans to this effect.

Farther upstream, the best possible alinement could be achieved only by routing the floodway channel through the municipal golf course, requiring reorganization of the course layout. In order to avoid depositing excavated material on the fairway sod on remaining portions of the course, the contractor agreed to excavate material in two passes from the opposite side of the channel. There was good cooperation between city workmen and the floodway contractor during this hauling operation. The city needed fill material and furnished the trucks for hauling. The contractor arranged his schedule so that he could load them at their convenience.

Machine time was not devoted to earthmoving alone. Grubbing of large cottonwood and elm stumps slowed progress. Additional time was consumed while working near powerlines and when making highway crossings. Earthmoving in urban areas presented special problems that required flexible scheduling. Suitable solutions were found, however, and the floodway channels are now functioning as they were intended.

Lazy 6 Lakes Fishing Area Brings Cash, Fun for Owner

THERE is lots of excitement around the Lazy 6 Lakes fishing area these days.

Hundreds of people have caught bluegill, bass, channel catfish, and carp, some weighing up to 11 pounds or more. These fish were caught in the ponds developed for recreation by Mr. and Mrs. DeLos Six and his mother, 10 miles southwest of Hillsboro, Ill.

Lazy 6 Lakes did not just happen.

The Six family purchased a badly rundown 110-acre farm in 1953. Six asked the Montgomery County Soil and Water Conservation District for help. Lex Xanders and Howard Brown of the Soil Conservation Service helped him develop his conservation plan and lay out practices to control erosion, including a pond for livestock water and a 7-acre lake where a large gully was dammed.

DeLos Six was not satisfied with the usual farm conservation program. He believed that farming and recreation could go together and provide additional income.

After visiting similar projects in Illinois and Indiana, he stocked his lake with fish, built camp grounds and picnic areas, and installed other essentials including a well, store, restaurant, bathhouses, and swimming beach.

The Sixes opened their recreation area in June 1963. Within 4 weeks, more than 2,000 people had been paying visitors. People came to fish from as far as 60 miles away. More than 250 spent at least 1 night camping.

Six estimates that he and the family spent not more than 10 percent of their time meeting, directing, and helping the guests.

In addition to what these people paid to enjoy the facilities of Lazy 6 Lakes, they also bought gasoline, food, fishing tackle, and other supplies from local merchants. This amount of added business could not be recorded but probably was several times what was spent at Lazy 6 Lakes—DELBERT E. JACKSON, *work unit conservationist, SCS, Greenville, Ill.*

Camp Conservation Wins Scout Council Award

"OF ALL kinds of soil and water conservation work, tree planting is the chore the boys remember. It's the remembering that counts."

This is Ranger Sidney O. Stephens of the Charles Howell Scout Reservation near Brighton, Mich., talking. For more than 20 years he has nurtured the conservation conscience of thousands of Scouts who, in turn, have made his 654-acre domain into a conservation showplace. Their remembering provides the donations, the volunteer help, and even the endless stream of new Tenderfoot Scouts.

Every Scout seeking a forestry merit badge is required to plant 100 trees during his stay at camp. Over the years, Scouts have planted 200,000 trees and shrubs.

The Detroit area council has just been awarded one of the coveted USDA Council Conservation Awards, given to only one council in each of the 12 regions of the United States. The brief of accomplishments, filed with the award committee, is devoted mainly to the activities of the Scout reservation. Ranger Stephens himself, earlier this year, received a Certificate of Merit award from the Soil Conservation Society of America, Michigan chapter.

The USDA award, given mainly for 1963 activities, recognizes that conservation is not a 1-year affair. There is planting and replanting and a constant building and rebuilding of facilities with an eye to the future and the welfare of new generations of Scouts. With 20,000 boys using the reservation each year, maintenance alone becomes a terrific problem. Yet nowhere is "overgrazing" apparent.

Things were different a quarter of a century ago. When the original tract of land was acquired, the fields were bare, the soil poor, the slopes scarred by erosion. Trees were scattered and few.

Robert R. Scrase of Southfield, Mich., an early Scout, describes it thus:

"I remember it like it was just last summer. The Scout reservation was nothing but a rolling section of land covered with dry, brown field grass that July in 1938. You could practically see from one end of the reservation to the other—if the hot, dry wind wasn't blowing sand in your face. To a Tenderfoot this was really it. This was the wilds of the Sahara — the burned out Western Plains—the Pampas at its worst.

"On December 1, 1963, I saw the results of 26 years of continuing conservation in action. Today, thousands upon thousands of stately fir trees stand in grove after grove, hillside after hillside, valley after valley — where once there were barren, dry burned grass and ground."

Scrase could have added that the land is now teeming with wildlife —deer, rabbits, raccoon, opossum, squirrels, ruffed grouse, quail, part-

At a waterfront campfire, "almost real" American Indians return to remind their paleface brothers of the need to carefully conserve natural resources.

Ranger Sidney Stephens (l.) shows honeysuckle and other wildlife plantings to Lamar Wood, formerly SCS work unit conservationist. This was a bare, blow-sand area when the Charles Howell Scout Reservation started its conservation program.

ridge, and pine finch. The attractions for songbirds include hundreds of individually built birdhouses.

The Charles Howell Scout Reservation, a cooperator with the Southeast Livingston Soil Conservation District since 1942, is regularly used as a site for the district's annual meetings. The Soil Conservation Service through the district has given much technical help and advice, with other agencies, particularly the Michigan Department of Conservation, also contributing.

A soil and water conservation plan spells out the uses of each acre of land to get the most from the light sandy soils and the few muck areas. The 85 scattered acres of tree planting, the 60 acres of pruned pine plantations, the wildlife plantings, diversion terraces, stream improvement, the 5 miles of firebreaks, the 12 miles of exciting nature trails, the development of shorelines and swimming areas — all have a lot of "know-how" from professional conservationists mixed in with the youthful vigor and enthusiasm of the Scouts.

One of the biggest engineering projects was the new swimming area recently created on spring-fed Lime Lake. SCS engineers recommended 500 cubic yards of excavation to give a beach 200 feet long, sloping gradually out to a 4 foot depth 40 feet from shore. Afterwards, 2,000 yards of sand and gravel were put in to cover an undesirable marl bottom. All together $2,500 was spent to make this a top-notch swimming lake.

Many private agencies and individuals have helped. Ranger Stephens tells of a painting contractor who brought his whole crew of men out and worked all day Saturday and Sunday without pay. This spirit of the Scout's "good turn" is a part of the good neighbor policy that has won friends and built a reputation of excellence for the Scout reservation.

For example, Scouts regularly collect pine cones and forest litter for free use by the Michigan State Forest Nursery nearby. They also cut and load Christmas trees which are donated to various social agencies, schools, and churches.

"Our job," says Ranger Stephens, "is to teach boys to treasure our forests and water, our wildlife and soil, not only for their real value, but because they are necessary to our way of life, to our economy, and to our spiritual well-being."

Exhibits Feature Conservation at Scout Jamboree

Three identical conservation demonstration areas were a major attraction at the Sixth National Boy Scout Jamboree at Valley Forge Park, Pa., July 17 to 23.

More than 50,000 Scouts, Explorers, and leaders had an opportunity to view the exhibit.

The Soil Conservation Service helped prepare the demonstrations and man the 10 instruction stations in each of the 3 areas. About 75 men representing more than 20 Federal, State, and private conservation agencies and industries served as onsite instructors.

Subjects covered in the conservation program, among others, included soils, watersheds, forestry, geology, weather, range management, marine resources, and wildlife. The theme of the entire program is "Conservation — Your Community and You."

Scout leaders consider the jamboree an outstanding display of Scouting spirit and discipline and a demonstration to the entire world of American democracy. Conservation was emphasized as an obligation of American citizenship, as it was in the jamboree of 1953, 1957, and 1960.

Farm Pond Serves Fire Protection And Recreation

(Photo on back cover)

A FARM POND as a measure of protection against fires has proved its worth for a northeast Washington farmer, who shortly after his pond was completed, saw lightning set fire to a section of his 170-acre timber stand.

Fire fighting crews were able to bring the blaze quickly under control and a $280 investment in pond construction paid off for the farmer by limiting to a minimum damage that might have reached $5,000.

William "Bill" Jolley, a cooperator in the Kettle-Stevens Soil and Water Conservation District, is the farmer who followed through on his idea of a fire protection pond.

It was Jolley's contention that while farm ponds for livestock, irrigation, and erosion control are important parts of soil and water conservation programs, a pond as a source of water for fire fighting would be a vital utility also.

Jolley consulted with Soil Conservation Service technicians who went over his farm, drew up a plan, and provided engineering supervision for the job. He received financial help through the Agricultural Conservation Program.

The job was begun in the spring of 1962. The pond-site was located where a spring-fed stream near the farmhouse could supply the water. Jolley hired a dragline and a tractor with a front-end scoop to move and spread 550 cubic yards of soil. An inexpensive overflow culvert was installed to take care of excess water. By summer the job was completed.

When filled the pond was a beautiful addition to the farm scenery. It was enhanced by a footbridge built at a cost of $100. Further pleasure was provided the Jolley family when the pond was stocked with trout.

SCS technicians in Stevens County believe the fire pond idea is a good one for other farms. They expect to be called to assist with several more within the next few years—LENN DOMPIER, *work unit conservationist, SCS, Davenport, Wash.; formerly of Colville.*

CONSERVATIONISTS ALL

As one conservationist to another, State Conservationist Keith F. Myers of South Dakota presented the Hornaday Award to Eagle Scout Jeff Harms in a recent ceremony in Huron, S. Dak., witnessed by Jeff's parents, Mr. and Mrs. Ellwood Harms.

The William T. Hornaday Award for distinguished service in conservation is given by the National Council of the Boy Scouts of America in cooperation with the New York Zoological Society. The engraved medal is awarded only in cases of truly distinguished achievement in conservation.

Jeff Harms packed abundant experience in conservation and other scouting interests in the years since he became a Cub. He was an Eagle Scout in 7 years, and in the next 2 years he earned Bronze, Gold, and Silver Palms. He has his "God and Country Award" and is working on a second Silver Palm.

He has earned 38 merit badges in all, and he credits those in conservation with helping him to choose his life's work, that of a forestry biologist. He got his early interest in conservation from his conservation-minded father, a commercial nurseryman.

SCS Goes Abroad

(*continued from page* 5)

Arabic which enables them to get along with the local leaders and youth in the villages and the workers in the field. The Algerian government also provides aides to assist with the application of practices on the land.

SCS Personnel Terms

With respect to SCS personnel, anyone who is assigned a job abroad receives, before he leaves the United States, a thorough orientation in the manners and customs of the region to which he is being assigned as well as basic training in the language of the country.

Such an assignment usually commands an increase in grade and sometimes carries a post differential involving a percentage salary increase related to increased cost or hazards that may exist in the foreign headquarters. There are also allowances which normally cover rent, education for dependent children, and the like.

SCS people I visited in both Tunisia and Algeria were comfortably situated in houses or apartments, nicely furnished by the U. S. Government in modern style.

The United States considers the AID program an important arm of foreign policy. In recent years more than $2 billion has been budgeted annually for economic and assistance programs.

Although the United States seems to be spending a great deal in its foreign aid program, we are now spending a lower percent of the Federal budget on foreign aid than we were several years ago. We are also spending proportionately less than some other countries, measured in percent of Gross National Product. A large proportion of the funds is for loans payable in dollars.

Funds available for technical assistance in recent years have permitted some 3,500 technicians to work overseas annually. More of these men — some 700 plus — work in food and agriculture than in any other field, such as industry and mining, health and sanitation, or transportation.

American aid to foreign countries in the various aspects of agriculture is being more closely coordinated. Special efforts are being made to achieve stronger cooperation between AID, USDA, and the land-grant institutions.

In the last analysis, all phases of agriculture, including plant and animal disease control, research, marketing, credit, extension and the use and management of soil and water resources are closely related to each other and to the total economic and social needs of the country that has requested assistance.

How much soil and water conservation will be included in technical assistance programs abroad in the months and years ahead is difficult to surmise. Certainly no agriculture can remain sound without full attention to the basic natural resources upon which production depends.

Girl Scout Cookies Dedicate Lake

A tubful of Girl Scout cookies — not champagne — was used to dedicate the "Sweetest Lake in the World," described in the May issue of *Soil Conservation* Magazine.

The 73-acre lake in the Porter Creek watershed in Tennessee was formed by a structure paid for in part by funds contributed by the Tennessee-Arkansas-Mississippi Council of Girl Scouts. The Scouts raised the money by selling 300,000 boxes of cookies.

SCS Administrator D. A. Williams participated in the dedication on May 24, before a crowd of 35,000 people. Governor Frank Clement and State Conservationist J. R. Sasser were speakers.

"I christen thee Lake Okalowa," said Kay Tankesley of Troop 91, Memphis, as she, with the aid of Mr. Williams, tossed a tubful of Girl Scout cookies into the water.

Have You Seen? ...

● "Mulch Tillage in the Southeast," by J. T. McAlister, Soil Conservation Service, USDA Leaflet 512. Minimum tillage—stirring the soil just as little as possible in producing a crop—is gaining momentum throughout the country. Mulch tillage is the southeastern Coastal Plains form of minimum tillage. This leaflet lists its benefits and soils suitable for and crops adapted to mulch planting, tells how to handle crop residues and to mulch plant, and gives production costs and yields.

● "Wild Turkeys on Southeastern Farms and Woodlands," by Dale H. Arner and Verne E. Davison of the Soil Conservation Service, USDA's Leaflet 526. The wild turkey is native to the Eastern and Southeastern States and is the origin of our domestic turkey. This 8-page leaflet tells how to manage land to provide these game birds with more food and water and with better cover and protection.

◆

Oregon State University research will center on ways to increase pasture acreage on some of the poorer soils now used for small grains and other surplus crops. Better pastures are needed to boost Oregon's deficit livestock production.

◆

A North Dakota farmer reports that grass and legume rotation in his cropping systems has restored soil tilth, reduced erosion, increased his yields, and reduced his operating costs. The rotation was set so that every 3 years one-half of the grass and legume would be broken up and returned to cropping.

Francis E. Coxe

South Carolina

Conservation Man of the Year

FRANCIS E. Coxe of Marlboro County S.C., recognized as the founder of and first major contributor to the Soil Conservation Districts National Foundation, has a deep appreciation for history and a keen interest in the future.

Coxe is chairman of the board of supervisors of the Marlboro County Soil Conservation District, a former president of the South Carolina Soil Conservation District Supervisors Association, and for 4 years was chairman of the State Soil Conservation Committee. At its December 1963 meeting, the State association named him "Conservation Man of the Year."

He owns and operates a 2,000-acre farm near Bennettsville, S.C. Nearby, his family still farms a 150-acre tract granted in 1765 by King George III to Emanuel Cox (without an "e"). Coxe lives in a big white frame house built by Moses Coxe, an ancestor, in 1832. Heavy locks, bearing the name of the famous English locksmith Carpenter and a royal seal, on six of the doors in the house are examples of many interesting and valuable antiques that can be seen about the Coxe home or the nearby log cabin that serves as a recreation center. There's even a waffle iron a great-great grandmother held over the flames from a massive fireplace.

Coxe said he plans to give some 100-year-old agricultural books to the Districts Foundation's recently established library in League City. He urged that others consider making similar donations to the library, especially publications dealing with the history of soil and water conservation districts.

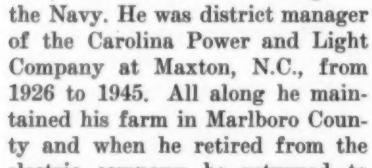
NACD President Marion Monk said of Coxe: "He's probably more responsible for there being a Foundation than anyone I know."

Coxe has been recognized as a "Tree Farmer" by the American Forest Products Industries since 1945. His farm includes about 1,000 acres of well-managed timber, mostly pines. He plants cotton, flue-cured tobacco, and soybeans and has improved pastures for his Hereford cattle.

This year, Coxe and several other farmers of the area participated in what he termed "an experiment." They each planted about 2 acres of flax in cooperation with a company from Holland that has built a factory at nearby Hartsville to make linen fiber. He said the company chose the Pee Dee area of South Carolina to produce flax because, among other reasons, its climate is similar to that of Holland where the company grows flax and manufactures linen on a larger scale.

Mainly because of his interest and accomplishments in promoting conservation and development of natural resources, thousands of boys and girls enjoyed recreational activities at three camps in Marlboro County this summer. He helped to get sites for and develop camps for the Pee Dee Council of Girl Scouts covering nine counties, for Presbyterian young people from seven counties and Baptist young people from two counties.

Coxe was born in 1895 in the same community where he, his wife, and two children now live. He received a B.S. degree in electrical engineering from North Carolina State College in 1917, did graduate work at Stevens Institute, and served as an ensign in the Navy. He was district manager of the Carolina Power and Light Company at Maxton, N.C., from 1926 to 1945. All along he maintained his farm in Marlboro County and when he retired from the electric company he returned to the home place to devote full time to conservation farming. He's an elder in the Blenheim Presbyterian Church, has served as chairman of the Board of Trustees of the former Presbyterian College at Maxton, and has been a Rotarian for 36 years.



CONSERVATION — IN THE PEOPLE'S HANDS. By AASA Commission on Conservation. 1964. American Association of School Administrators, Washington, D. C. 350 pp., illus. $6.00.

The American Association of School Administrators Commission on Conservation can be proud of this new book that is the collective effort of many persons.

The book gives new scope and broadens the definition of conservation. It is not a reference volume of "how-to-do-it" conservation nor is it a text book for teachers. Rather it is a compilation of essays "addressed to everybody" to say that "conservation is everybody's business."

The early chapters put in perspective man's relationship with natural environment, changes in natural environment brought about by man's use and development of resources, and a most significant listing of "feelings and beliefs" in the culture of the United States that "in the long run determine the manner in which natural resources are used."

It is made clear that conservation, as an attitude as well as action, finds its basic roots in an educated society. In America we did not wait until depleted farmlands caused us to go hungry or until all our forests and game were gone, before instituting nationwide programs of soil conservation or forest and wildlife conservation. The educational level of the public made it possible to comprehend the need and to start action ahead of actual disaster.

It is also made clear that although resource conservation education is imperative in a democracy, this will not in itself bring about needed changes. "Pleasant conversation and interesting speculation fall short of the mark when action is called for."

While the point is repeatedly well made that conservation progress "rests upon an intelligent, informed citizenry that is able and willing to carry responsibility," it also becomes clear that some of the citizenry must carry more of the responsibility than others — that "everybody's business" can become "nobody's business." Illustrations of conservation action by individuals, by cities, States, and the Federal Government also illustrate the fact that neither the dollar and cents costs nor the benefits fall alike on everyone.

The book ends on an optimistic appraisal of significant progress in reforestation and forest fire prevention, in good land use practices on private land, flood reduction, more game, more parks, more farm ponds, lakes, and outdoor recreation spaces. Instead of the usual condemnation of wanton destruction from man's avarice, the book closes with these significant statements: "The people of this country have a wider range of choices in the use of natural resources than they have ever had . . . Working through democratic government, public institutions, and private enterprise they can use the resources of the country to build the kind of community and the kind of life they want." — GLADWIN E. YOUNG, *Associate Administrator.*

LAND AND WATER FOR RECREATION. By Marion Clawson. 144 pp. 1963. Rand McNally & Co., Chicago. $2.25.

This paperbound book in Resources for the Future's Policy Background Series is a companion volume to *Land for Americans* by the same author reviewed in July *Soil Conservation.* It considers in detail a newly important land use that was the subject of one chapter in the more general study.

The current lively concern with outdoor recreation finds most agricultural and conservation workers eager for factual information and interpretation of the subject.

This book serves to summarize in understandable fashion most of the present knowledge in the field. It draws heavily on studies by Resources for the Future and on the voluminous reports of the Outdoor Recreation Resources Review Commission. To the average reader, the lucid interpretation is likely to be even more appreciated than the wealth of basic facts presented.

—B.O.

• **Soil and Water Conservation District Program, Northumberland County, Sunbury, Pennsylvania.** 1963. 60 pp., illus. An unusually complete description of the natural resources of the area, illustrated by photographs and colored maps. The booklet also summarizes district accomplishments of the past 20 years and outlines "a plan for progress for the next 30 to 40 years." A form for ordering at $1 each is included.

From the Administrator:

The New Technical Service Centers

ONE of the major organizational problems of the Soil Conservation Service since our seven regional offices were abolished in 1953 has been to provide technical services to State staffs from representatives of the Washington office located in widely scattered field offices.

Because our lines of communication have been too long, it has been difficult to coordinate our technical know-how in assisting the States. At the same time, it has been difficult to keep the technical specialists advised of program developments, policy changes, new procedures, and of problems facing the service.

Plans to correct this situation have been in the making for some time. The President's budget for 1965 and the accompanying personnel ceilings made it mandatory that we move now to make needed changes.

The plan finally approved is to consolidate our technical services to the States into four Regional Technical Service Centers, each under the supervision of a field representative. Consolidation will be completed by June 30, 1965.

The Regional Technical Service Centers will be located at Upper Darby, Pa., for the Northeast; at Fort Worth, Tex., for the South; at Lincoln, Nebr., for the Midwest; and at Portland, Oreg., for the West. The accompanying map shows the States that will be serviced through these centers.

The centers will consolidate Washington-Field offices that since 1954 have been at 12 locations.

In addition to the field representative at each Regional Technical Service Center (with the exceptions noted) will be each of the following:

Engineering and watershed planning unit, cartographic unit (except Upper Darby), field information unit, principal soil correlator, administrative officer (except Lincoln and Portland), and specialists in agronomy, biology, plant materials, range, woodland, and resource development.

The National Cartographic Laboratory at Hyattsville, Md., will continue to serve the Northeast. The Cartographic Unit at Spartanburg will continue to serve North and South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, and the Carribbean Area.

The field representative in charge of each Regional Technical Service Center will report directly to me. He will be a major member of my staff but not a line officer. As a staff supervisor his job will be to coordinate the various services provided to the States. He will not provide regional administration to the States served by the center. He will maintain his close working relationship with me by participating in Washington "office weeks" and other administrative conferences.

All personnel located at the four centers except the field representatives, their secretaries, and the center administrative units at Upper Darby and Fort Worth, will continue to be members of the staff of the division or other unit in the Washington office from which they receive guidance.

Since several months are being provided within which to complete this realinement, I'm sure all qualified employees can be placed in suitable positions within the organization if they are willing to transfer where the vacancies exist. This will avoid invoking reduction-in-force procedures.

We hope to put this new system into effect in stages during the year. The States will continue to be serviced by Washington-Field personnel from their present locations until further notice.

I feel confident that the new system, once we have "sweated out" the pangs of change, will make our organization more efficient and effective.

I am counting on all of you to help make these transitions in staffing and servicing as smoothly as possible. —D. A. WILLIAMS

Areas to be served by Technical Service Centers.

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MULTIPURPOSE FARM POND

Story on page

Bill Jolley sees beauty as well as utility in his farm pond near Colville, Wash.

He built the pond primarily to assure a supply of water for fire protection. Soon after it was completed it was called into use to stop a woods f nearby.

Now stocked with fish, it has also become a r reation spot for family and friends.